UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

SINGULAR COMPUTING LLC,
 	
               Plaintiff,
 	
    v.
 	
GOOGLE LLC,
 	
               Defendant.
	Civil Action No. 1:19-cv-12551 FDS
	
	Hon. F. Dennis Saylor IV

GOOGLE'S OPPOSITION TO SINGULAR'S MOTION TO COMPEL
PRODUCTION OF SAMPLES OF THE ACCUSED PRODUCTS

TABLE OF CONTENTS

<u>TABLE OF AUTHORITIES</u>

Page(s)

Cases

Rules

I.   INTRODUCTION

Singular's motion paints an inaccurate picture of both the events preceding the motion and Google's position. Google did not flatly refuse to provide samples of the accused products. Rather, because the unique nature of the accused products makes production impractical and unnecessary, Google offered weeks ago to make available samples in a manner that addresses Singular's stated needs to (1) have a demonstrative example for trial and (2) conduct numerical simulations. Singular has simply ignored this proposal and failed to inform the Court of Google's position, in contravention of this Court's Local Rules.

The samples Singular requests are boards for Google's proprietary Tensor Processing Units ("TPUs")—computer processors for machine learning that are not sold to the public and which are only used in Google's datacenters. Given the unique technical nature of Google's TPUs, samples are of no use to Singular for the testing that Singular says it wants to perform. Both the TPUs and the larger boards in which the TPUs are integrated have unique architectural, power, and cooling requirements that would prevent Singular from running them on their own.

For these reasons, Google proposed a solution that is consistent with this Court's Local Rules and addresses Singular's stated goals: having a physical sample to show at trial and the ability to test TPU chip functionality. Specifically, in place of providing boards containing sample TPUs, Google offered to provide Singular with sample boards that look identical to the actual boards except that there would be no working TPU inside the processor packaging. And, because Singular would not be able to run tests on any chips or boards that Google might provide, Google offered to provide Singular a Cloud TPU account through which Singular could run whatever numerical simulations it wanted on Google's hardware.

Singular never responded to this proposal and does not address the proposal in its motion. Because Singular has yet to explain how and why Google's proposal does not address Singular's

1601689

stated needs, and because Google's proposal does meet Singular's stated needs, Singular's

motion should be denied.

II.   BACKGROUND

The patents-in-suit are directed to a "processor or other device" that "includes processing

elements designed to perform arithmetic operations." Declaration of Matthias Kamber in Support

of Google's Opposition to Motion to Compel Production of Samples of the Accused Products

("Kamber Decl."), Ex. 6 ('156 patent) at Abstract.[1] Singular accuses two versions of Google's

TPUs of infringing the patents-in-suits. The TPUs are specialized circuits developed by Google

to, among other things, accelerate machine learning. Declaration of Roy Bannon in Support of

Google's Opposition to Motion to Compel Production of Samples of the Accused Products

("Bannon Decl."), ¶ 2.

Google does not sell TPUs or the "boards" that contain them. Bannon Decl., ¶ 2. Further,

the TPU boards have unique requirements—such as specialized architectural, power, and cooling

needs—that make it extremely unlikely they could ever operate outside a Google datacenter or

the TPUs' manufacturer facility. *Id.*, ¶ 5. For instance, TPU boards require over 2400 watts of

power, and boards for TPUv3 require a precisely controlled water cooling system. *Id.* The boards

also will not operate without a dedicated Google host server and a variety of proprietary software

that would be difficult to distribute. *Id.*, ¶ 6. Google does, however, make TPUs' machine-

learning capabilities available to customers through Google's Cloud TPU product. *Id.*, ¶ 2.

---

[1] The patents-in-suit are U.S. Patent Nos. 8,407,273; 9,218,156; and 10,416,961. *See* Dkt. No. 37
(First Amended Complaint), ¶ 27. Because all three patents share a common specification and do
not contain materially different claim language, this brief cites the '156 patent and Singular's
corresponding infringement contentions.

Under the Court's July 27, 2020 Scheduling Order, Singular was required to serve its preliminary infringement disclosures on September 4, 2020, followed by a conference to discuss both parties' patent-related disclosures on October 2, 2020, and then Google serving its preliminary invalidity and non-infringement disclosures on November 6, 2020. Dkt. No. 59 (Scheduling Order) at 1–2.[2] Accordingly, Singular served preliminary infringement disclosures on September 4 and the parties held their conference on October 2. Kamber Decl., ¶ 2. Although the parties also discussed the substance of Google's anticipated disclosures, at no point did Singular request the production of sample TPUs, much less sample TPU boards. *Id.* Given Singular's lack of interest in production of samples and the nature of its claims, Google understood that Singular did not seek the production of samples.

Singular first demanded that Google provide sample TPU boards on October 28, in response to Google requesting clarification about test code that Singular produced in connection with its infringement contentions. *Id.*, ¶¶ 2–3 & Ex. 1 (Oct. 22, 2020 email from Kamber to Singular counsel). Singular contended—incorrectly—that Google had been required to produce samples of accused products by October 23, even though the Scheduling Order made no mention of samples and set the deadline for Google's preliminary patent-related disclosures a full two weeks later. *Id.*, Ex. 2 (Oct. 28, 2020 letter from Seeve to Kamber) at 1; Dkt. No. 59 (Scheduling Order) at 1. In any event, Singular claimed that it needed samples to perform testing to "supplement the simulation results" from its test code, which had purportedly showed that TPU mathematical operations met the minimum error rates claimed by the patents-in-suit. Kamber Decl., Ex. 2 (Oct. 28, 2020 letter from Seeve to Kamber) at 1–2; *see also id.*, Ex. 7 ('156 patent

---

[2] The Court clarified the Scheduling Order in a manner that does not affect the present motion on August 4, 2020. Dkt. No. 69 (Order Granting Motion for Clarification).

3

infringement contentions chart) at 9 (discussing testing performed by Singular to determine whether TPU operations meet claimed error rates).

Google's counsel subsequently met and conferred with Singular's counsel via telephone on November 2 and 3. During those calls, Singular's counsel gave two concrete reasons why Singular wanted sample TPU boards: (1) to have a demonstrative exhibit for the jury and (2) as suggested in its October 28 letter, to simulate mathematical operations to determine whether those operations yielded the error rates claimed by the patents-in suit. Kamber Decl., ¶ 5.

Contrary to Singular's claims, Google's counsel did ***not*** agree to provide samples of TPU boards—Google's counsel instead agreed to consult with its client about a way to meet Singular's stated needs for samples. *Id.*, ¶ 6. This fact is reflected in Singular's own related correspondence, which concedes that production of the requested sample boards was subject to consultation with Google (which consultation identified the issues warranting an alternative proposed solution). *Id.*, Ex. 4 (Nov. 12, 2020 letter from Seeve to Kamber), Ex. 5 (Nov. 13, 2020 email from Kamber to Seeve). Because those consultations were ongoing as of the November 9 status conference, Google had seen no need to clarify the ambiguous statement of Singular's counsel at the conference that "they are going to provide us with a couple of samples." Mot. at 5.

Following consultations with Google, on November 11, Google's counsel offered to provide Singular with a trial demonstrative in the form of non-functional boards that would not have TPU chips inside the processor package. Kamber Decl., Ex. 3 (Nov. 11, 2020 email from

4

Kamber to Seeve). These boards would look identical to actual TPU boards; for example, the

non-functional version of the TPUv3 board would appear as follows:
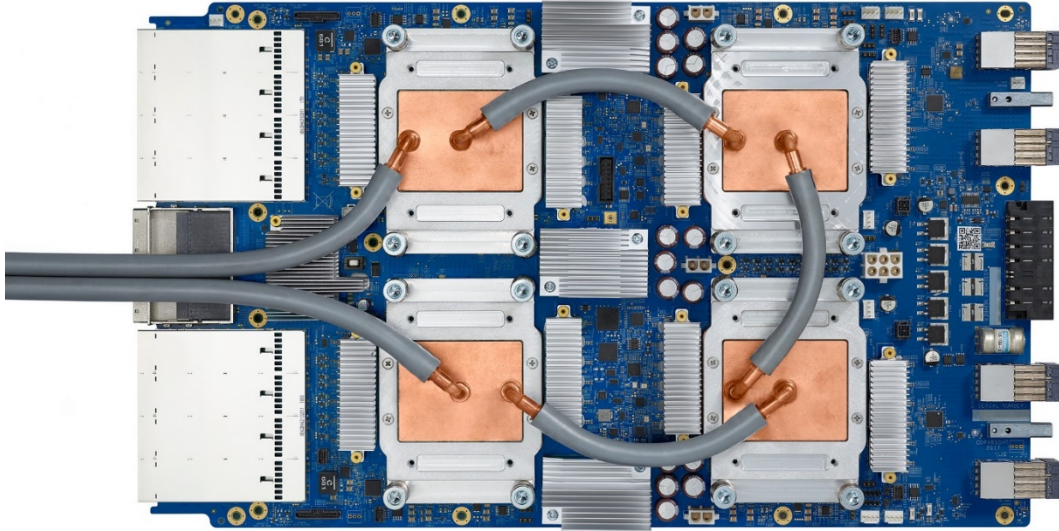
Bannon Decl., ¶ 8. The only difference would be that the TPUs—the silicon chips packaged

inside a "chip package" and thus not visible on an actual board—would not exist on a sample

board. *Id.*, ¶ 9. To a jury, however, the sample boards would be indistinguishable from actual

boards. *Id.*.

As for testing, production would not be useful for reasons noted above—specifically, that

the boards would almost certainly be impossible to run tests on due to, at minimum, their many

unique requirements. *Id.*, ¶¶ 5–6. Google therefore proposed to make working TPUs available for

use via a Cloud TPU account, which would allow Singular to run the numerical testing it

proposed. Kamber Decl., Ex. 3 (Nov. 11, 2020 email from Kamber to Seeve).

Google's offer remains outstanding, but Singular has yet to respond. Instead, the day after

Google made its offer, Singular incorrectly asserted that Google had agreed to provide samples.

Id., Ex. 4 (Nov. 12, 2020 letter from Seeve to Kamber). In so doing, Singular did not

acknowledge Google's proposal. *See id.*, ¶ 8. In response, Google reiterated, among other things,

that it had made a proposal that addressed both of Singular's stated needs and invited Singular to explain why the proposal was inadequate. *Id.*, Ex. 5 (Nov. 13, 2020 email from Kamber to Seeve). Singular ignored this invitation as well. *Id.*, ¶ 8.

III.   ARGUMENT

A.   Singular's failure to meet and confer on or identify deficiencies in Google's proposal is fatal to Singular's motion.

Singular's refusal to engage with Google's proposal is reason enough to deny Singular's motion. Under Federal Rule of Civil Procedure 37, any discovery motion "must include a certification that the movant has in good faith conferred or attempted to confer with the person or party failing to make disclosure or discovery in an effort to obtain it without court action." Fed. R. Civ. P. 37(a)(1). This Court's Local Rules go even further, requiring that "counsel for each of the parties shall confer in good faith to narrow the areas of disagreement to the greatest possible extent" and, when a motion follows, that the motion specifically identify "the matters on which the parties reached agreement," the "issues remaining to be decided by the court," and the "response" of opposing party on each "discovery matter" that is the subject of the motion. L.R. 37.1(a), (b)(2), (b)(4).

Failure to comply with these requirements is grounds alone to deny a motion to compel. *Hasbro, Inc. v. Serafino*, 168 F.R.D. 99, 101–02 (D. Mass. 1996); *Theidon v. Harvard Univ.*, No. 15-cv-10809-LTS, 2016 WL 3919839, at *1 (D. Mass. July 15, 2016). And Singular has flunked them all here. Singular never acknowledged Google's proposal, much less tried to narrow any potential dispute over whether the proposal met Singular's stated needs, and thus the parties "had not yet reached an impasse in the discussions before the motion was filed—at least as far as [Google] was aware." *Hasbro*, 168 F.R.D. at 101. Nor does Singular's motion describe any delta between what Google has offered and what Singular wanted to accomplish by way of its request

for samples. That omission "makes it difficult, if not impossible, for the Court to rule at this time on the substance of the motion to compel." *Id.*

In short, Singular's failure to abide by its obligations has left Google in the dark as to how to narrow or resolve any disagreement and shifted to the Court the burden of resolving a dispute that has not crystallized. At present, neither Google nor the Court can say:

- why a Google Cloud TPU account and sample TPU boards without the TPU chips are insufficient to meet Singular's stated need for samples—specifically, running numerical simulations and showing a demonstrative exhibit to a jury, including

  o how production of TPU boards could serve the purpose of running simulations when such boards have specialized requirements that will be impractical if not impossible for Singular's counsel to overcome; and

  o why using a Google Cloud TPU account would not allow Singular's counsel to run the numerical simulations but production of TPU sample boards would.

This murky state of affairs is exactly why the Federal Rules of Civil Procedure and this Court require parties to meet and confer and report on their discussions to the Court. The Court should hold Singular to these rules.

B.   Because production of a TPU board is impractical or unnecessary for Singular's stated needs, Google has offered to permit inspection in a manner that meets those stated needs.

Although the Court's Scheduling Order does not obligate Google to provide access to samples of the accused products, Google's compromise offer both is consistent with this Court's Local Rules and addresses the reasons Singular has given for demanding sample TPU boards. Local Rule 16.6 expressly provides that "[w]hen production [of the accused product(s)] is not practicable, the accused infringer shall permit inspection of the accused product(s)." L.R. 16.6(d)(4)(B). And contrary to Singular's assertion that "[i]t is not as if Singular is requesting Google to produce a Cray Supercomputer," Mot. at 4, production of TPU boards *is* impractical. Given the unique requirements of TPU boards—such as large amounts of power, specialized

cooling, a dedicated Google host server, and difficult-to-distribute proprietary software—Singular would not be able to use samples to supplement its simulation results of mathematical operations that purportedly yielded the error rates claimed by the patents-in-suit. Bannon Decl., ¶¶ 5–6.

For that reason, Google has instead offered to provide Singular access to TPU services via a Cloud TPU account. Kamber Decl., Ex. 3 (Nov. 11, 2020 email from Kamber to Seeve). This account would allow Singular's counsel sufficient "inspection" rights for the purpose Singular has articulated: running its numerical simulations on the accused products. Bannon Decl., ¶ 7. Singular has yet to identify any task it wishes to perform (much less could perform) with a sample TPU board in lieu of a Cloud TPU account. Kamber Decl., ¶ 8.

Google's offer also meets Singular's other stated desire for a demonstrative exhibit. Kamber Decl., Ex. 3 (Nov. 11, 2020 email from Kamber to Seeve). The sample board would be indistinguishable from boards containing the proprietary TPU chips, Bannon Decl., ¶¶ 8–9, and would make it more practicable to use as a trial exhibit (because it would not require special handling requirements in the absence of the proprietary chips inside). To the extent Singular wants a demonstrative exhibit to show the jury, a sample board without TPU chips will serve the same purposes. Here, too, Singular has yet to identify any reason why such a demonstrative exhibit does not meet Singular's needs.

Singular's silence on Google's proposal is unsurprising: Singular has not articulated an infringement theory that hinges in any way on the architecture of TPU boards. Contrary to Singular's bare assertion that TPU boards "are central . . . to Singular's claims of infringement of each of the patents-in-suit," Mot. at 8, Singular's allegations and infringement contentions focus on *chip*-level specifics. The operative complaint discusses ***chip-level*** architecture in laying out

Singular's infringement theory. *E.g.*, Dkt. No. 37 (First Amended Complaint), ¶¶ 90–95.

Likewise, Singular's infringement contentions tether each limitation to "TPU Chip[s]" and "TPU

Core[s]." Kamber Decl., Ex. 7 ('156 patent infringement contentions chart).

Tellingly, Singular tries to obscure the chip-focused nature of its infringement theory

with selective citation of its own complaint and infringement contentions. Singular's motion

highlights just a snippet of the complaint, which merely establishes the total number of a

particular TPU *chip* component on a board—not any aspect of board-level architecture. Dkt. No.

37 (First Amended Complaint), ¶ 90; Mot. at 2. Similarly, the one page of infringement

contentions attached to Singular's motion contains the contentions' only reference to a TPU

board. That reference corresponds to the claims' lone mention of a "device," which is in the

preamble and which Singular has not argued is limiting. Kamber Decl., Ex. 6 ('156 patent) at

29:54; *see also id.* at 29:1-4 ("[A]ny device or combination of devices . . .which performs the

functions disclosed herein may constitute an example of an embodiment of the present

invention."); *Arctic Cat Inc. v. GEP Power Prods., Inc.*, 919 F.3d 1320, 1327 (Fed. Cir. 2019)

("[A]s a general rule, preamble language is not treated as limiting") (citation and internal marks

omitted). The remaining ten pages of Singular's contentions (not submitted with Singular's

motion) focus exclusively on TPU *chips*. *See* Kamber Decl., Ex. 7 ('156 patent infringement

contentions chart).

Simply put, Singular's infringement allegations relate to TPU chips, not boards.

Consistent with that infringement theory, Google has timely made available code that details

how the accused functionality is implemented on the accused TPU chips. Kamber Decl., ¶ 9.

This documentation provides the ground-level truth about how the chips operate, which neither

sample chips nor sample boards could do for the reasons explained above.

IV.   CONCLUSION

Singular's motion was not preceded by a good-faith meet-and-confer effort and ignores

that Google has made a proposal that meets both of Singular's stated needs for samples;

therefore, the Court should deny the motion.

Respectfully submitted,

Dated: December 3, 2020

By: */s/ Matthias Kamber*
       Gregory F. Corbett (BBO #646394)
       gregory.corbett@wolfgreenfield.com
       Nathan R. Speed (BBO # 670249)
       nathan.speed@wolfgreenfield.com
       Elizabeth A. DiMarco (BBO #681921)
       elizabeth.dimarco@wolfgreenfield.com
       WOLF, GREENFIELD & SACKS, P.C.
       600 Atlantic Avenue
       Boston, MA 02210
       Telephone: (617) 646-8000
       Fax: (617) 646-8646

       Asim Bhansali (*pro hac vice*)
       abhansali@kblfirm.com
       KWUN BHANSALI LAZARUS LLP
       555 Montgomery Street, Suite 750
       San Francisco, CA 94111

       Matthias Kamber (*pro hac vice*)
       mkamber@keker.com
       KEKER, VAN NEST & PETERS LLP
       633 Battery Street
       San Francisco, CA 94111-1809

       Attorneys for Defendant Google LLC

1601689

<u>CERTIFICATE OF SERVICE</u>

 I certify that this document is being filed through the Court's electronic filing system, which serves counsel for other parties who are registered participants as identified on the Notice of Electronic Filing (NEF). Any counsel for other parties who are not registered participants are being served by first class mail on the date of electronic filing.

          /s/ Nathan R. Speed
          Nathan R. Speed